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U.S. PATENT APPLICATION

IN THE NAME OF

**Jean-Marc YERLY**

Filed: March 15, 2006

**LIFTING MACHINE**

**ENGLISH TRANSLATION OF CLAIM 1 AS AMENDED IN THE  
COURSE OF INTERNATIONAL PRELIMINARY EXAMINATION**

Attorney Docket No. YERJ-3

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Claims

1. A machine for lifting and handling loads with an orientable articulated placing jib, comprising a mast with a rotating pivot, an articulated jib (10) comprising a jib foot (19), articulated at its first end on the top of the mast by means of a horizontal rotation shaft (27), a jib head member (18) articulated for rotation by means of a horizontal articulation shaft (32) on the second end of the jib foot, a jib holding assembly comprising at least one stanchion (7), a jib holding line (11) and a moving counterweight (100) connected to the jib by the said retaining line, characterised in that the counterweight (100) is made to follow a guiding track (1) with a variable slope ( $\alpha$ ), rigidly secured to the rotating pivot, supporting the said counterweight, arranged opposite the jib, and where the variations in slope ( $\alpha$ ) are chosen so that the counterweight exerts a set of variable forces on the said jib and on the structure of the said machine, contributing to balancing the machine during movements of deployment/retraction of the jib in articulated working mode.

2. A lifting machine according to claim 1, characterised in that the guiding track (1) has, in its portion (A) closest to the mast, a slope ( $\alpha_A$ ) less than the slope ( $\alpha_B$ ) in at least a portion (B) further away from the mast.

3. A lifting machine according to one of claims 1 or 2, characterised in that the guiding track (1) has a curvilinear profile.

4. A lifting machine according to one of claims 1 or 2, characterised in that the guiding track (1) has a sigmoidal profile.